

## **“GREEN REVOLUTION”**

### **To create Artificial Rainmaking by Endothermic Reactions**



### **“Economical and None Pollute system for Rainmaking Technology by laser System Similar to Natural Lightning Phenomena”**

*The IRRA Scientist Group proposed "Novel technology for Rain Enhancement using high power Laser system initiation endothermic reactions in a way of natural lightning phenomena through ground level or air craft on a large scale in the atmosphere," which has been successfully demonstrated in a laboratory cloud chamber as well as in the atmosphere up to 75m altitude.*

*The "Laser-induced condensation & water drop formation" process has been scientifically & practically proved in the laboratory cloud chamber" as the production of ozone and nitrogen oxides by laser." O<sub>3</sub> & NO are endothermic reactions which are responsible for condensation and water drop formation. These rain drops act as natural seeding, enhancing rain in a way of natural lighting phenomena. Our many research papers have been published in national and international journals.*

*Innovative Rainmaking Technology has been patent filed for national and international PCT publishing. Our aim is to bring a "green revolution" in the whole world for all human beings. This is God's gift to us. Search on Google as "Rainmaking by endothermic reactions" or website: <http://www.irraindia.org> you know more details about "Innovative Rainmaking Technology". It's scientifically and practically proved in laboratory cloud chambers and in the atmosphere.*

#### **“MISSION”**

**“Green Revolution in the whole world for all human being”**

#### **“Vision”**

**“Global Prosperity through Artificial Rainmaking”.**

#### **” Objectives”**

- 1) “Novel technology for artificial rainmaking using high power Laser system in the atmospheric clouds initiation endothermic reactions, in a way of natural lightning phenomena”**
- 2) “Well distribution of rainmaking in all over” also rain drain in Dam area**

(Flow Chart)

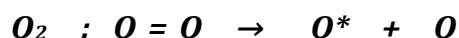
***“Innovative Rainmaking Technology by Laser System initiating Endothermic Reactions similar to Natural Lightning Phenomena for Artificial Rainmaking on large scale in the Atmosphere”***



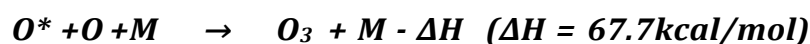
***\* We well know, after lightning, precipitation is formed and heavy rainfall occurs. This Lightning phenomenon for Rainmaking is caused by endothermic reactions as.....***



***\*Lightning creates high temperature, at high temperature, bonds of N<sub>2</sub> (74%) and O<sub>2</sub> (23%) break out into excited N\* and O\* as....,***



***\*Excited N\* and O\* are unstable, react with each other and NO and O<sub>3</sub> are formed.***



***\* NO and O<sub>3</sub> formations are endothermic reactions. Heat energy required for these reactions is taken from the surrounding atmospheric clouds.***



***\*As a result, these reactions will produce, temperature falls, and condensation takes place, which is basic need for rain drops formation, these rain drops act as natural seeding, rain is in analogous way similar to rains created in nature by lightning.***



***\* Increase of O<sub>3</sub> and NO concentration after lightning has also been experimentally observed in the atmosphere.***



***\* Natural lighting phenomena has been practically demonstrated in the laboratory cloud chamber by high power Laser shooting , as result “Laser-induced condensation & water drops formation”is observed.***



***\* Process has been scientifically & practically proved in the laboratory as “production of O<sub>3</sub> (Ozone) and NO (Nitrogen Oxides) by lasershooting in cloud chamber”.***



***\*Laser photons photo-dissociate atmospheric compounds N<sub>2</sub> and O<sub>2</sub> and from O<sub>3</sub> and NO which are endothermic reactions, required lot of heat energy, absorbs from surrounding atmospheric clouds, condensation & precipitation formed enhance rain, in the atmosphere.***



***\* Lightning phenomenon created through artificial lightning by laser system can produce rain in the atmosphere has been practically proved as “Laser-induced water condensation in air”.***



***\*Scientists have succeeded in obtaining raindrops from an altitude of 75m of the atmosphere by terawatt mobile laser.***



***\*IRRA Scientist Group proposes laser system of specification of 10<sup>12</sup> watt, 800nm, 500mJ, 120fs and 10Hz for this research project to create artificial lightning which initiates endothermic reactions, similar to Natural Lightning Phenomena for Rainmaking in the atmosphere.***



***In Laboratory cloud chamber, formation of these tiny water dropsparticles are converted into rain drops by acceleration and turbulence due to wind force in nature and Rainmaking in the atmosphere.***



***\*Innovative Rainmaking technology is scientifically & practically proved and successfully experimented and is known as “Laser makes rain”.***



***\* Process is economical, harmless and eco-friendly and can be switched on and off by remote control from the ground. It is most useful for human beings particularly for farmers.***



***\*Please search on Google as "Rainmaking by Endothermic reactions" or visit our web site <http://www.irraindia.org>***



***\*Our aim is "Production of Rainmaking when and where required for bringing about a Green revolution in the whole world for the humankind".***



***\*If our finding could be used to help scientists create new alternative method for Rainmaking, the resulting techniques could be of inestimable value.***



***Additional uses of Innovative Rainmaking Technology for rain drain in Dam catchment area.***



***Water & Food are the basic needs of all human beings as well as animals, trees, etc. which depends on rain; it is easily solved by artificial rain making by Laser System in the atmosphere .***



***A group of European scientists working on artificial rain said in 2010 "Firing extremely powerful laser pulses through humid air can stimulate the formation of clouds, according a team of European scientists. They say that the effectiveness of this method is much easier to gauge than traditional cloud- seeding techniques and that it could provide a practical means of triggering rainfall". (Search on Google as Laser makes rain heavily 2010).***

***"Novel Rainmaking Technology scientifically & practically proved"***

***By  
IRRA Scientist Group, India***

(IRRA Registration Certificate)



सत्यमेव जयते

GOVERNMENT OF INDIA

MINISTRY OF CORPORATE AFFAIRS

Central Registration Centre

CERTIFICATE OF INCORPORATION

[Pursuant to sub-section (2) of section 7 and sub-section (1) of section 8 of the Companies Act, 2013 (18 of 2013) and rule 18 of the Companies (Incorporation) Rules, 2014]

I hereby certify that **INNOVATIVE RAINMAKING RESEARCH ASSOCIATION** is incorporated on this Fifth day of February Two thousand twenty under the Companies Act, 2013 (18 of 2013) and that the company is limited by shares.

The Corporate Identity Number of the company is U73100MH2020NPL337195.

The Permanent Account Number (PAN) of the company is AAFCI5742P

\*The Tax Deduction and Collection Account Number (TAN) of the company is  
NGPI02173D

- Given under my hand at Manesar this Fifth day of February Two thousand twenty .

Digital Signature Certificate

Sd/-

M MOHAN ASST. REGISTRAR OF  
COMPANIES

For and on behalf of the Jurisdictional Registrar of Companies Registrar of Companies  
Central Registration Centre

**Disclaimer:** This certificate only evidences incorporation of the company on the basis of documents and declarations of the applicant(s). This certificate is neither a license nor permission to conduct business or solicit deposits or funds from public. Permission of sector regulator is necessary wherever required. Registration status and other details of the company can be verified on

[www.mca.gov.in](http://www.mca.gov.in)

Mailing Address as per record available in Registrar of Companies office: INNOVATIVE  
RAINMAKING RESEARCH ASSOCIATION

C/O VIJAY MADHUKARRAO KHODE,  
EKNATH TEMPLE, SUDAMPURI, WARDHA, Maharashtra, India, 442001

\* As issued by the Income Tax Department



Innovative Rainmaking Research Association (IRRA Scientist), Sevagram Wardha 442102 Maharashtra India, [E-skc.arr@rediffmail.com](mailto:E-skc.arr@rediffmail.com)

***“Research Activities & Achievement for Innovative Rainmaking Technology”  
By IRRA Scientist Group, India***

***“Achievements”***

***A) Research Paper Presented in National and International Conference  
By IRRA Scientist Group, India.***

- 1) *Research paper “Novel Technology for Artificial Rainmaking by Laser system in a way of Natural Lightning Phenomena” presented in International Environment Conference @ Dakhla, Morocco country, sept.2018 by S. K. Chopkar, IRRA Scientist Group, India.*
- 2) *Research Paper “Rainmaking Technology by Laser System Initiations Endothermic Reactions ,condensations, Precipitations, Raindrops which act as Natural seeding process, Enhancing for Rainfall in the Atmosphere” Presented in National Workshop on Atmospheric Chemistry, Indian Institute of Tropical Meteorology, Pune, India, by S.K.Chopkar, IRRA Scientist Group, India*
- 3) *Research Paper “Femtosecond Terawatt Laser system to produce Artificial Rain” in International Environment Conference, University of Calcutta-700009, India by D.K.Chakrabarty, IRRA Scientist Group, India.*
- 4) *Research paper “Innovative Rainmaking Technology by Laser System initiating Endothermic Reactions similar to Natural Lightning Phenomena for Artificial Rainmaking in the Atmosphere” presented in “ Shri Venketesh Triputi Balaji University ,Andhra Pradesh ,India, International conference on Environment Science (2012)*

***B) Award achievement to IRRA Scientist Group, India***

***IRRA Scientist Group, has been awarded international scientist Outstanding Award,(2019) by VDGGOOD Professional Association, Chennai, India.***

***C) Publish Software***

***\*Please visit our YouTube Channel search as” Novel Technology for Artificial Rainmaking’ .Click here :- <https://youtu.be/UYfuH9fAmUs>***

***\*Please search on Google as S.K.Chopkar or “ Artificial ainmaking by Endothermic Reactions” or visit our web site***



<http://www.irraindia.org>

**D) National & International Patent Certificate and Documents**

**“National and International Patent File”**

- 1) \* *International Australian Government, IP Australia Certificate of Grants Innovation Patent number: 2020101897 (2021).*
- 2) \* *International Publication Patent No:-WO/2008/062441 (2007) and Revised International Application No.PCT/IN2017/000105 (2017).*
- 3) *Indian Patent Number:- 238000 (2007) and Revised Indian Patent File Number 201721008920(2017)*
- 4)

**E) “Research paper publish in national and international Journal”**

**By IRRA Scientist Group”**

- *Sixteen research paper has been published in National and International journal, list of research paper available on our web site <http://www.irraindia.org> Please refer.*

**By  
IRRA Scientist Group, India,**

**By**

**IRRA Scientist Group, India**

**INNOVATIVE RAINMAKING RESEARCH ASSOCIATION**

**Sevagram Road, Dhanvantri Nagar-30, Sevagram-442102, Dist.- Wardha, Maharashtra, India.**

**Cell +91 9420445108, EMAIL: - skc.arr@rediffmail.com / irra.scientistgroup@gmail.com**

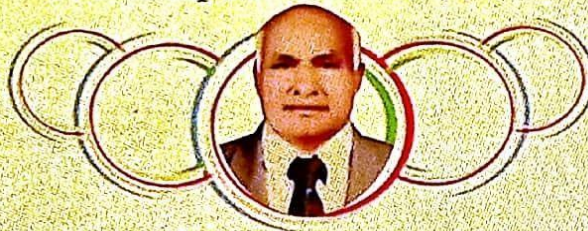
**Website -<http://www.irraindia.org>**





**VDGOOD™**  
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14 & 15-Sep-2019 | Chennai, India



**Outstanding Scientist Award**  
Presented to  
**Dr.S.K.Chopkar**  
IRRA Scientist Group,  
Environment Research Study,  
International Rainmaking Research Academy,  
Maharashtra, India.

*M. Dinesh*  
**Mr.M.Dinesh**  
Association Director  
VDGOOD Professional Association, India



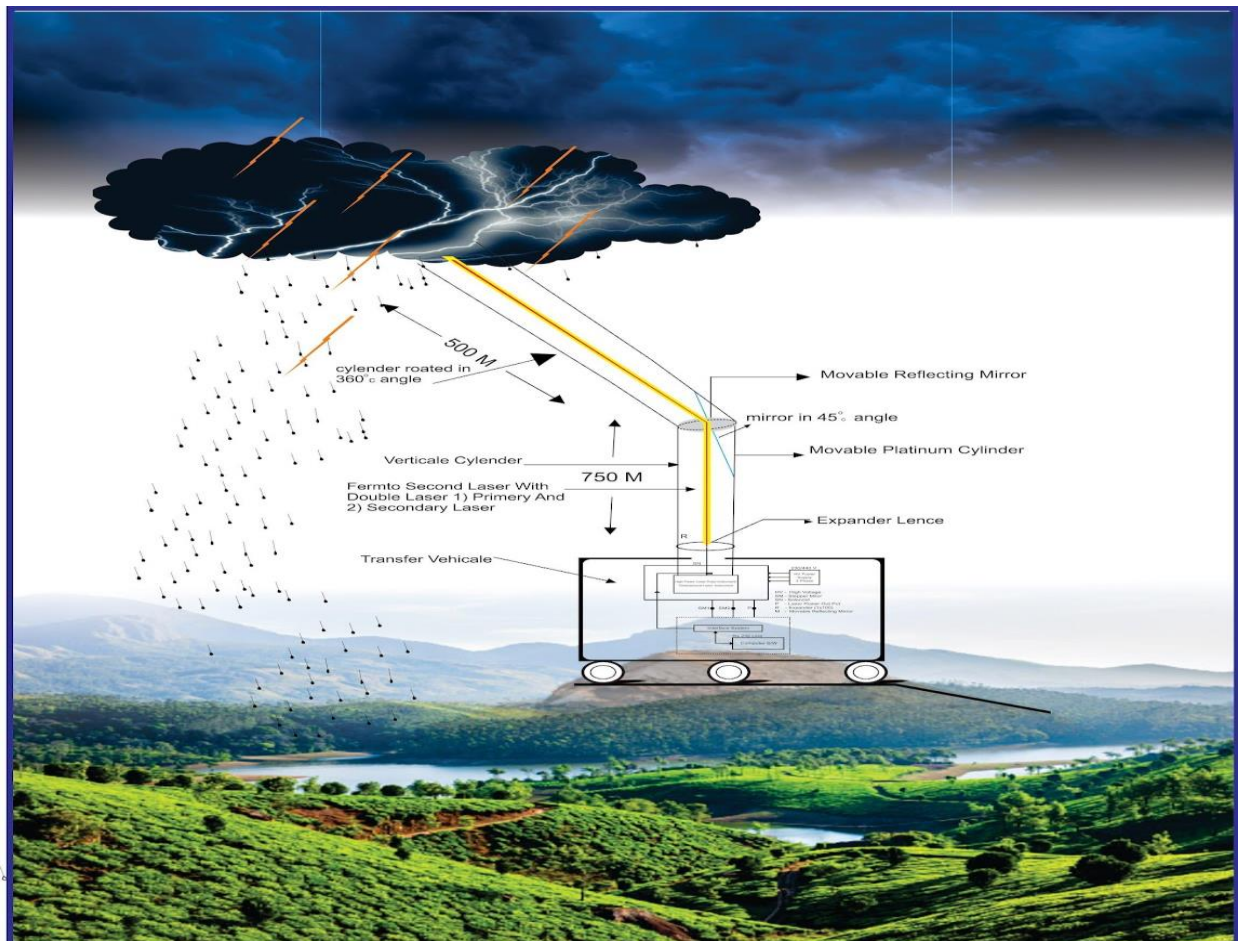


**(Mini Flow Chat)**

**“Artificial Rainmaking as similar natural lighting phenomena by Laser system from Ground, in the atmosphere”.**

*\*After Lightning heavy rainfall occurs → \*Lightning Phenomena demonstrated by Laser system in Laboratory cloud chamber → \* Bonds of  $N_2$  &  $O_2$  breaks, at a high temp. → \*Excited [N] & [O] form → Excite  $N^*$  and  $O^*$  are unstable → \*React to each other → \*Form  $NO$  &  $O_3$  → \*Endothermic reactions → \*Lot of heat energy Required for these reactions → \*It's subtracts from the surrounding atmospheric clouds → \*Condensations take place → \*Precipitation form with tiny water drops → \* “Laser induce condensation & water drops formations in Laboratory cloud chamber”. → These tiny water drops in the atmosphere → \*Due to wind forces, as acceleration & turbulence forces in the atmosphere → These tiny water drops act as → \*Natural seeding process to form, another sets of raindrops → \*Chain process occurs in the atmosphere → \*Heavy rainfall occurs by rainmaking technology, Similar as lightning phenomena → \* Artificial Rainmaking in a way of natural lighting phenomena by Laser system from Ground, in the atmosphere.*

**Figure: “Artificial Rainmaking Methodology by Laser system from Ground” (Figure No.1)**



**Artificial Rainmaking By Laser System From Ground Level Fig : 1**

## ***“Request for Help”***

***Now days, IRRA scientist group are struggling with funds for research activities. Your little help may be most useful for “Green revolution in the whole world for all human being”. Your co-operation is solicited.***

***With best regards***

***Yours faithfully***

***IRRA Scientist Group, India.***

## ***Bank Account Details***

- 1) ***Bank Name-CENTRAL BANK OF INDIA,MIDC SEWAGRAM ROAD--442102, Warud, Dist.-Wardha.(Maharashtra.),India.  
Bank A/c Name:- Innovative Rainmaking Research Association, Sewagram, Dhanvantri Nager-30, Varud, Dist Wardha -442102,Maharashtra,India.  
Bank A/c No. 3806623156, IFSC Code No.:- CBIN0282189,***
- 2) ***Bank Name-CENTRAL BANK OF INDIA,SEWAGRAM BRANCH--442102, Warud, Dist.-Wardha.(Maharashtra.),India.  
Bank A/c Name:- International Rainmaking Research Academy, Sevagram, Dhanvantri Nager-30,  
Bank A/c No. 3841144252, IFSC Code No.:- CBIN0280697***

***With best regards***

***IRRA Scientist Group.***

***INNOVATIVE RAINMAKING RESEARCH ASSOCIATION INDIA***

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***Website -<http://www.irraindia.org>***

***\*Please visit YouTube Channel search as "Novel Technology for Artificial Rainmaking". Click here:- <https://youtu.be/UYfuH9fAmUs>***

***\*Please search on Google as “Rain Enhancement by Endothermic reactions” or visit website: <http://www.irraindia.org>***

***“A challenging research work on "Innovative rainmaking technology  
By Endothermic Reactions”***

***"Innovative Rainmaking Technology" is scientifically and practically proven in the laboratory. cloud chambers as well as in the atmosphere. "The laser induces condensation and water drops formation in both the laboratory cloud chamber and the atmosphere."***

***A challenging research project on "Innovative rainmaking technology by laser", which is similar to natural lightning phenomena from the ground level, many scientific and practical tests have been conducted in cloud chambers and in the atmosphere to prove this hypothesis. The use of innovative rainmaking technology is most definitely "A Global Green Revolution for all Humanity". Scientists of the IRRA Group are involved in rainmaking by laser techniques, as per human needs for rainfall in the atmosphere at anytime, anywhere. more than 65% humidity. Nature has given us the skill for a "Green revolution in the whole world for all human beings".***

***The IRRA Scientist Group has already demonstrated "Innovative Rainmaking Technology". In Laboratory cloud chamber successfully, and results have been published in "Indian Journal of Science & Technology", <http://indjst.org>, vol. 1, No. 6 (2008). IRRA scientists have been involved for the last 37 years in the field of research for success on "Innovative Rainmaking Technology".***

***The project proposal, the design of the laser system, the budget estimate, and the Work plan are already with IRRA Scientist Group, India. A project proposal on "Innovative Rainmaking Technology by Laser System initiating Endothermic Reactions similar to Natural Lightning Phenomena for Artificial Rainmaking on large scale in the Atmosphere" is enclosed for your kind consideration.***

***We, here by strongly recommend for consideration of the IRRA Scientist Group from India for Excellence in Innovative Research Work in the Field of Rainmaking Technology for your valuable consideration. Your little help may be most useful for "Green revolution in the whole world for all human being". Your co-operation is solicited. Welcome to your scientific guide line, suggestion for technology, also your comments for further research study .Please ,do the needful for "Green revolution in the whole world for all human beings"***

***By***

***IRRA Scientist Group, India***

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***Website -<http://www.irraindia.org>***